Glossary

Allocation: distribution of allowances to sources or states.

Allowance: an authorization to emit a specific amount of a pollutant under a cap and trade program. Allowances are used for compliance and can be traded among sources participating in the cap and trade program.

Bank: allowances that are unused may be held for use in later years. Both the Acid Rain and the NOx SIP Call programs have established banks that may be used in the CAIR trading programs. In both programs, the bank is maintained by the EPA.

BART-eligible source: a stationary source which was not in operation prior to August 7, 1962, and was in existence on August 7, 1977, and has the potential to emit 250 tons per year or more of any visibility impairing air pollutant and is in any of 26 source categories listed in the regional haze regulation.

BART – Best Available Retrofit Technology: an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by an existing stationary facility. The emission limitation must be established, on a case-by-case basis, taking into consideration the technology available, the costs of compliance, the energy and non-air quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.

Budget (state level): The budget at the state level is the allocation of the cap to the individual states within the CAIR region. If the state chooses to adopt the federal trading program, this budget becomes the number of allowances that the state can allocate to its sources. If the state does not adopt the federal trading program, this budget becomes a cap on the level of emissions in the state.

Budget (unit level): The budget at the unit level is different than the allocation to a unit. A budget at the unit level implies a cap on the emissions at that unit and the unit cannot emit over that limit. On the other hand, if you give an unit an allocation (implying there is a trading program), this is the number of allowances that they have on hand. The unit's emissions are only limited by the number allowances it can buy on the market.

CAA - Clean Air Act: the Federal Clean Air Act as amended in 1977 and again in 1990. Title 1 addresses ambient air quality and associated federal standards in addition to more general state air management and planning requirements including requirements for regional visibility improvement.

Cap: the overall emission limit that a group of affected sources cannot exceed under a cap and trade program. Confusion may arise because it may also be referred to as the budget. In CAIR, the cap is set at the 28-state region as a whole.

CAIR - Clean Air Interstate Rule: CAIR is a requirement for the states to reduce the interstate transport of pollutants that significantly contribute to ozone and PM-2.5 concentrations in other states. The program is directed at reducing NOx and SO2 emissions from the electric power sector across a 28-state region of the eastern US. CAIR incorporates three federally-operated emission cap and trade programs which are options to state-developed programs. CAIR establishes statewide NOx and SO2

emission budgets for electric generation units (EGUs) for 2009 (NOx- annual and seasonal), 2010 (SO2 - annual) and 2015 (NOx and SO2). States can adopt the default EPA trading program or may substitute state-specific programs for any of the three components.

Class I Areas: see "Mandatory Class I Federal Area".

CHP - Combined Heat and Power Units: Combined heat and power units, also known as cogeneration, generate power and thermal energy from a single fuel source. The basic elements of a CHP plant comprise one or more prime movers usually driving electrical generators, where the heat generated in the process is utilized via suitable heat recovery equipment for a variety of purposes including: industrial processes, community heating and space heating.

EGU – Electric Generating Unit: EPA utilizes electric generation units serving a generator with a nameplate capacity 25 MW or greater as a definition for the power sector facilities included in multiple programs including CAIR. These units are fossil-fuel fired and can include a variety of combustion processes to produce electricity for sale to the grid.

Emissions Market: an economic market is created for tradeable emission limitations. Individual control requirements are not specified for sources. The only requirements are that sources completely and accurately measure and report all emissions and then turn in the same number of allowances as emissions at the end of the compliance period.

Fuel adjustment factor or Fuel weighting: Fuel weighting is used in the calculation of allocation of allowances. It weights the distribution of allowances depending on the type of fuel used.

LADCO – Lake Michigan Air Directors Consortium: LADCO is the incorporated regional air quality assessment support organization of the five states including Illinois, Indiana, Michigan, Ohio and Wisconsin.

Mandatory Class I Federal Area (Class I area): Any of the national parks or wilderness areas identified in part 81, subpart D of Title 40 CFR. Emission sources in Wisconsin contribute to the visibility impairment in four Class I areas: Boundary Water Wilderness area and Voyagers National Park in Minnesota; Isle Royal National Park and Seney Wilderness area in Michigan.

MW-RPO – Midwest Regional Planning Organization: The MW-RPO is a slightly larger organization than LADCO which in addition to the LADCO states includes Region 5 EPA and federal land managers in the region associated with regional haze planning, ozone, fine particles and other regional pollutant issues.

NAAQS – National Ambient Air Quality Standards: NAAQS address a handful of ambient air pollutant issues on a nationwide basis. The federally-determined standards reflect a threshold, above which, public health is demonstrated to be impacted. Designations for the respective standards reflect the application of the concentration thresholds to particular areas and a formal determination if the standard is being attained or violated. Areas violating the standards are designated nonattainment and require attainment SIPs which contain enforceable emission control plans for the appropriate chemical/pollutant precursors to the pollutant of concern.

NOx – Nitrogen oxides: NOx is chemical shorthand for a cluster of intermediary chemicals in the atmospheric nitrogen process. NO transforms rapidly into NO2 after its formation in combustion processes and subsequently can interact with ammonium species to form nitrates that impact visibility and PM-2.5 concentrations. NOx plays a key role in the formation of elevated ozone (O3) concentrations. Control plans that include reduction of NOx emissions on a regional basis are shown

effective in reduction of ambient O3, PM-2.5 and regional haze. Reducing regional NOx is also shown to benefit major waterways suffering from accelerated eutrophication.

NOx SIP Call: On September 24, 1998, EPA finalized a rule (known as the NOx SIP Call) requiring 22 States and the District of Columbia to submit State implementation plans that address NOx precursor pollutants that contribute to the regional transport of ground-level ozone. The NOx SIP call was designed to mitigate significant transport of NOx, one of the precursors of ozone. All NOx SIP call states chose to meet their obligations by participating in the NOx Budget trading program, a market based cap and trade program for electrical generating and large industrial units. This trading program was developed to facilitate cost effective emissions reductions of oxides of nitrogen (NOx) from large stationary sources. Wisconsin was not a part of this program.

Ozone: A very reactive, oxidative form of oxygen containing three oxygen atoms. Ground-level ozone is created in the atmosphere via chemical reactions of precursor pollutants (e.g., NOx and VOC) in the presence of sunlight. Precursor pollutants are emitted by burning fuels such as gasoline and coal, by using solvents in products such as paints and cleaning liquids, by the evaporation of gasoline and by industrial processes that produce ozone precursors. Ground level ozone is the main component of smog. At ground-level, ozone is unhealthy to breathe and has been linked to respiratory ailments such as asthma and bronchitis. Ozone oxidizes materials that it contacts and damages trees, crops, corrodes masonry, and causes paint to darken. Ground level ozone is one of a handful of ambient air pollutants for which the CAA sets nationwide air quality standards based on ambient concentration thresholds. Ten counties in eastern Wisconsin have been designated nonattainment for ozone and the State must develop formal plans to attain and maintain the standard on a specified schedule. However, ozone in the upper atmosphere is beneficial as it protects the Earth from the sun's ultra-violet rays.

PM, PM-2.5, PM-10 and PM-2.5-10 – Particle Matter: PM, or Particle Matter is measured based on discrete particle size thresholds. PM-10 includes all PM smaller than 10 microns in aerometric diameter. PM-2.5 includes all particles smaller than 2.5 microns (fine particles). Sources of fine particles include all types of combustion, including motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes. PM-10-2.5 includes the "coarse fraction" of PM-10. Sources of coarse particles include crushing or grinding operations, and dust stirred up by vehicles traveling on roads. PM2.5 has been associated with premature mortality, heart attacks and bronchitis. Current NAAQS address both PM-2.5 and PM-10 on an annual average and 24-hour concentration. Proposed revised standards include lowering the 24-hour standard and developing a new standard focusing on the particles between 10 and 2.5 microns. Wisconsin currently has no PM nonattainment areas but may violate revised PM threshold levels being considered in the current proposed revised standards.

Retirement Ratio: A retirement ratio refers to the number of allowances that must be surrendered for each ton of emissions emitted. For example, in the CAIR NOx annual trading market, an allowance is worth one ton of NOx emissions. If a retirement ratio of 2:1 is implemented, a source would have to surrender two allowances to emit one ton of NOx.

SIP – State Implementation Plan: SIPs address the overall state plan for ensuring attainment of the national ambient air quality standards as well as discrete plan revisions addressing required federal components the state air management programs.

SO_2 – Sulfur dioxide: SO2 is gaseous oxidation product caused by the combustion of sulfur contained in fuels. The predominant source of SO2 is coal combustion within boilers. A majority of these boilers are used for electricity generation, but a significant fraction also comes from industrial and institutional boilers and process heaters. SO2 is an ambient pollutant with a national air quality

standard. An acid precursor, SO2 is a direct irritant to the respiratory track and at higher concentrations can cause substantial public health problems. A substantial portion of SO2 chemically transforms into sulfate aerosols that play a large role in PM and visibility air quality problems. Ultimately most of the SO2 and sulfate by-products deposit to the surface and play a role in sulfur deposition issues for sensitive waters ("acid rain"). Control plans for haze and PM-2.5 in the Midwest will depend on a substantial reduction in levels of SO2 emissions.

Sources subject to BART: BART-eligible sources that are reasonably anticipated to cause or contribute to any visibility impairment in a Class I area.

RACT – Reasonably Available Control Technology: RACT is specified emission control program focused on major point sources. It can be defined on a unit-specific basis, like BART determinations, or, it can be developed on a more categorical basis. It is required for major point sources in a nonattainment area that emit a pollutant or pollutant precursor above a specified threshold based on either potential or actual emissions. RACT is a federally mandated SIP component for most nonattainment areas.

RACM – Reasonably Available Control Measures: RACM is a more general requirement than RACT and is used to evaluate and adopt a wide range of control measures and programs. RACM is the response to a requirement that SIPs provide for future attainment air quality as expeditiously as practical. If measures are found unreasonable, or show no incremental value to advancing the ambient air quality improvement, they can be excluded from the SIP. In general, all RACT is considered RACM, but RACM may include variety of additional measures.

RFP – Reasonable Further Progress and ROP – Rate-of-Progress: Like RACM, progress plans are a SIP control program required to ensure an area meets air quality standards as expeditiously as practicable and no later than the formal attainment date. For certain ozone areas, a formal increment of emission reduction is required on a one year, or three year composite basis. For Basic ozone areas, the core emission reduction progress requirement is to implement controls in order to attain within a five year window, or, if a period longer than five years but shorter than 10 years is needed based on technical or installation feasibility, then as expeditiously as practical. These demonstrations are submitted by the State to EPA as part of the SIP.